

Prautes

Cypher Labs


Coffman Labs
artful audio. purely analog.

*“The golden age of audio lives on
in our heritage amplifiers.”*





Prautes

PACKAGE CONTENTS

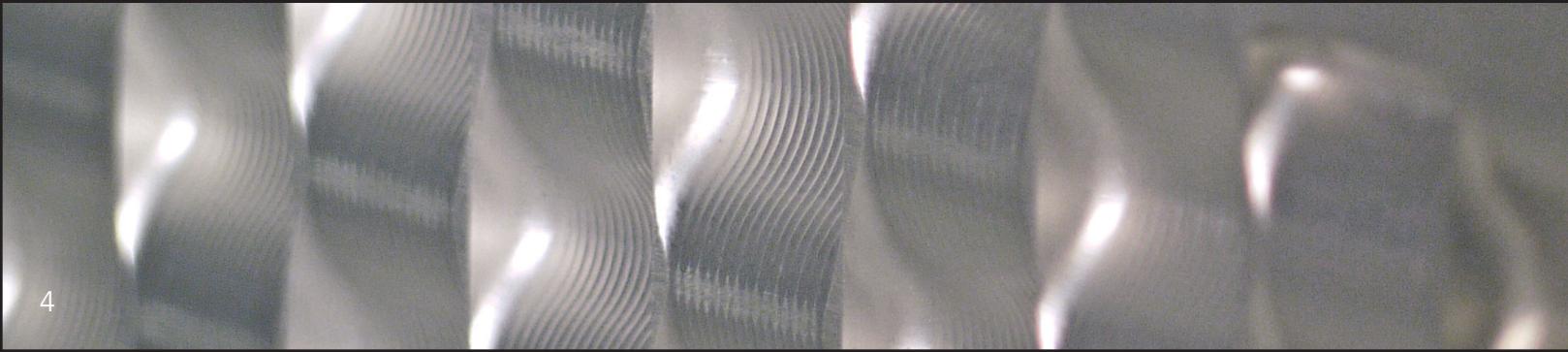
Prautes headphone amplifier
Tubes provided in separate shipping box; install before use
Anodized tube shields – optional use
AC power cable – custom made
User Manual (this text)
Keep the original packaging for warranty service



Prautes

is defined by Aristotle as the middle way between passive acceptance and unreasonable anger. Often translated to English as 'meek', it is more correctly understood to be a reference to proper understanding and accurate action. Prautes as defined by the ancient greeks expresses a character in which strength and gentleness are perfectly combined. The Prautes amplifier seeks to do just that—present music in a manner that delivers subtlety, image, detail, and excitement, all in an accurate manner that duplicates the live experience. The Prautes amplifier combines vintage tubes, military technology, and hand made USA components to create the 'Prautes' experience.

The Prautes amplifier combines vintage tubes, Cold War era military technology, and hand made USA components to create the 'PRAUTES' experience. The result is a legacy piece—one that is timeless and enduring.



VACUUM TUBE *headphone amplifier*

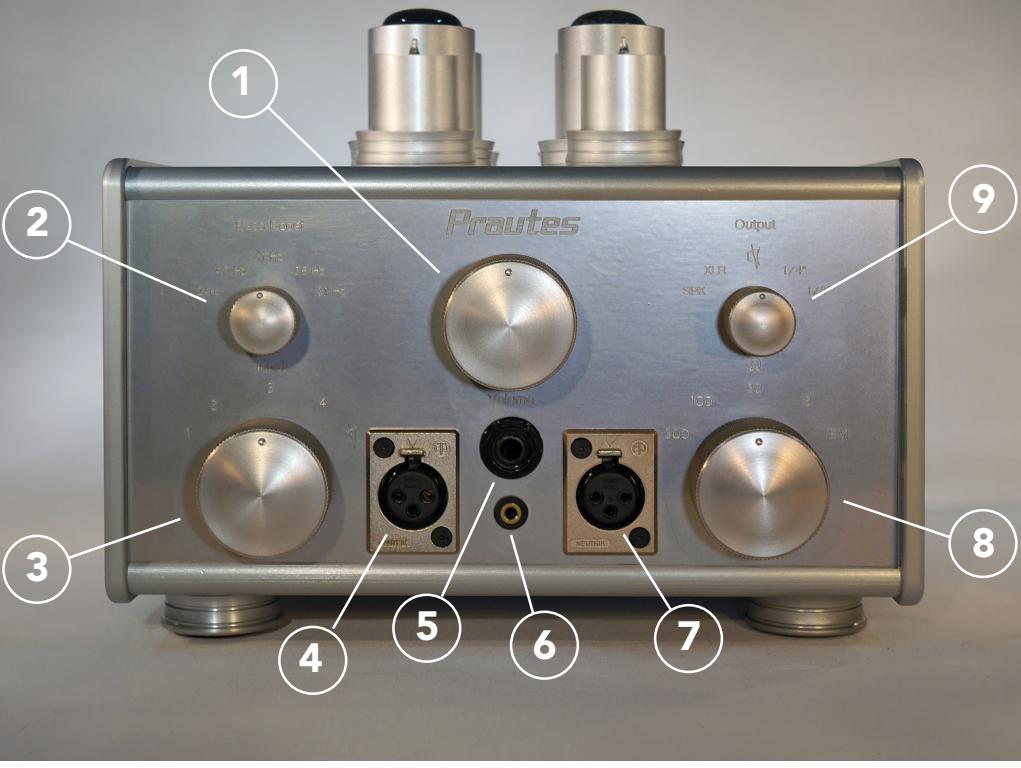
The Prautes is a vacuum tube headphone amplifier that also functions as a line stage amplifier and low power speaker amplifier, thus providing great flexibility in limited spaces. It was created as a heritage piece—something that can last for decades. Some of the parts (like the switches) are sourced from military aircraft, made to withstand high stress. All the external case and knobs parts are custom-made only for our products.

The Prautes, and other products, are produced in collaboration between Coffman Labs and Cypher Labs, bringing together two firms with advanced technology expertise. The goal: unlock an unsurpassed listening experience for the audio customer.

The Prautes amplifier bears the signature of Damon Coffman. He trained in college as a concert violinist, obtained his graduate degree in physics through the U.S. Naval Postgraduate School, then built his career as an engineer in medical technology firms. While pioneering new technologies for medical companies, Damon began searching for audio equipment that would give his favorite pieces of music the beauty of a live performance. He found some of what he was looking for in the designs of classic amplifiers from the golden age of analog audio. He then combined his passion for music, art, and craft into heirloom quality products that embody his design philosophy of simplicity, elegance, and accessibility.

We are proud of our unique approach to audio and design, and we believe that our amplifiers will be enjoyed and cherished for many years to come.





- 1. Volume Potentiometer
- 2. Bass Boost
- 3. Input Selection
- 4. XLR (Left)
- 5. Headphone Output (1/4")
- 6. Headphone Output (1/8")
- 7. XLR (Right)
- 8. Output Impedance
- 9. Output Selection

VOLUME CONTROL

HEADPHONE AND SPEAKER SETTINGS

This heritage quality finely manufactured potentiometer controls the headphone, speaker and pre-amp line outputs.

INPUT SWITCH

SELECTS ONE OF FOUR LINE INPUTS

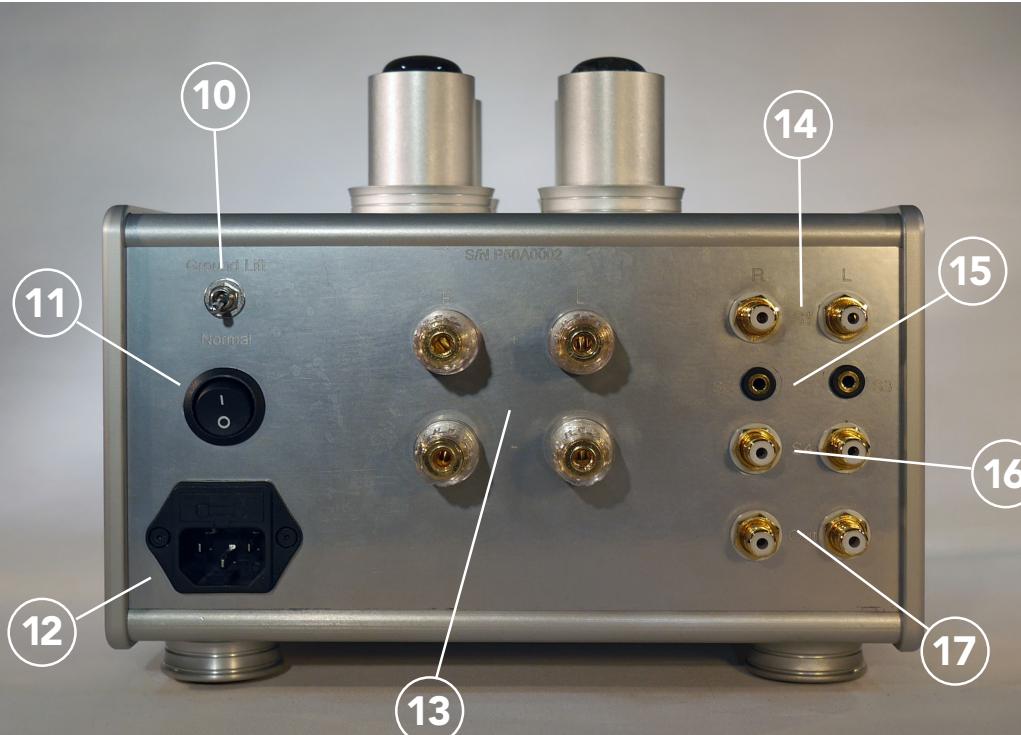
Selects one of four line inputs.
Input impedance is greater than 20KΩ

Use the "Mute" position when changing input cables.

BASS BOOST SWITCH

PROVIDES APPROXIMATELY +3DB BOOST
WITH A VARIABLE ROLL-OFF POINT

The bass boost circuit gives a subtle increase in bass response. This control eliminates the high phase shift that occurs with typical tone controls. The boost amount is the same for all settings, but the frequency point of the boost ranges from 47Hz to 31Hz. This allows for very fine tuning of the bass response. Match this setting in coordination with the Impedance Switch to match the selected headphone, type of music chosen and your preferences.



- 10. Ground Lift
- 11. Power On / Off
- 12. AC Input
- 13. Speaker Posts
- 14. RCA Input 1
- 15. 1/8" Inputs 2 & 3
- 16. RCA Input 4
- 17. RCA Line Output

IMPEDANCE SWITCH

HEADPHONE AND SPEAKER SETTINGS

- 300Ω - High impedance headphones like Sennheiser 800
- 100Ω - Standard for many Studio headphones
- 32Ω - Standard consumer headphones
- 8Ω - Speakers or very low impedance headphones
- IEM - In-Ear-Headphones

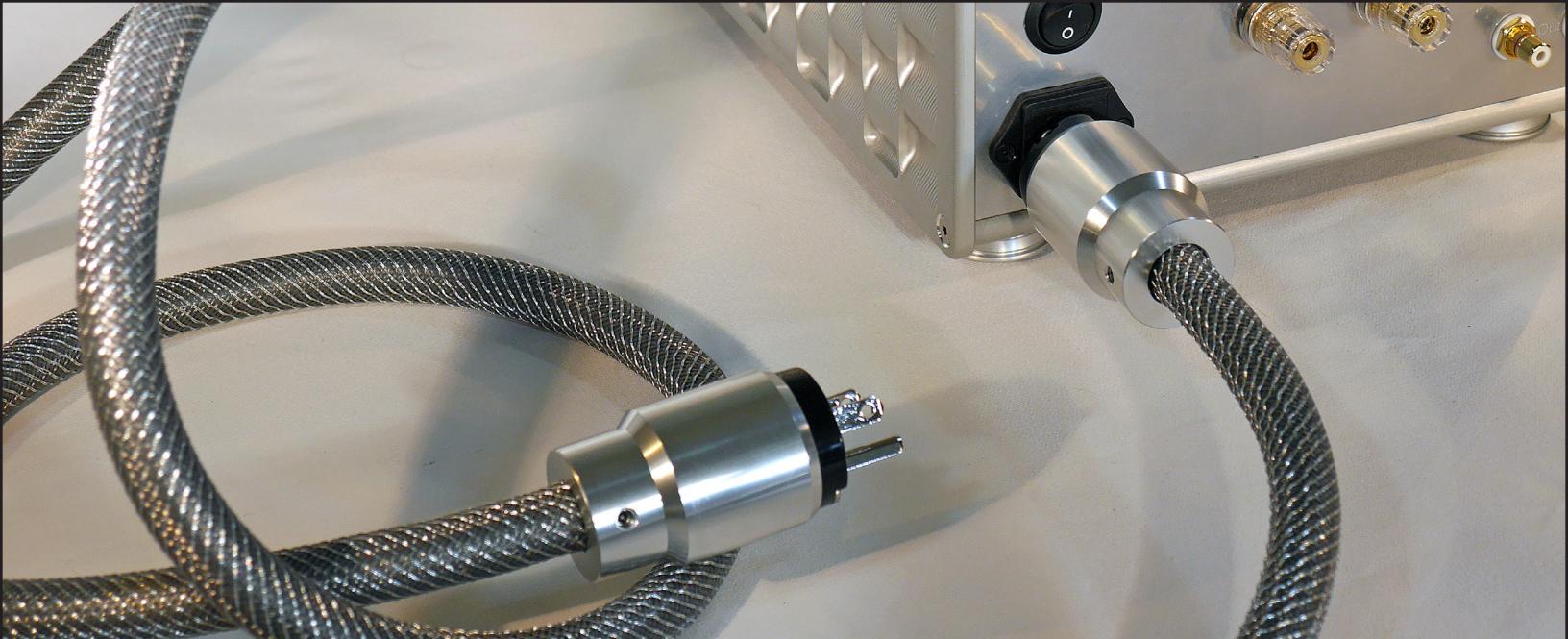
*Play with the different settings to select the best match for your headphones.
Bass rolloff changes slightly with 'off' impedance.*

OUTPUT SWITCH

SELECTS OUTPUT TYPE

- SPK - Output to rear speaker jacks—use 8 Ω impedance
- XLR - Output to balanced XLR jacks
- Mute - No speaker output—use for independent line output mode
- 1/4" - Output to 1/4" (6mm) Headphone jack
- 1/8" - Output to 1/8" (3.5mm) Headphone jack

*Leave different headphones plugged into different jacks.
Use the Output Switch to select which headphones are in use.*



Specifications

GAIN Line Stage: approximately 16dB
Headphone power: > 1 Watt, depending on load

BASS BOOST 31, 36, 41, or 47Hz boost of approximately 3dB (6dBm)
No extra active circuit elements are engaged!

GROUND LIFT SWITCH Use only if there is ground loop hum
in your AC supply wiring.

DIMENSIONS 12 1/2" D x 7 3/4" H x 9 1/2" W / cm D x cm H x cm W

FREQUENCY RESPONSE 20Hz to 20KHz +.2dB to -.75dB into matched resistive
load. Note - Can vary slightly based on tubes installed.

WEIGHT 16 pounds / 7.3 kilograms (not including AC power cable)

AC POWER Depending on destination country the Prautes amplifier
voltage setting is preset at the factory for 120v or 240v
operation. Operating on the wrong voltage will void warranty.

TUBE COMPLEMENT

Depending on which options are selected
at purchase, either 50L6 or 25L6 tubes are
supplied for the output stage.

2 each of 12AU7 for the input/line stage

Anodized tube shields are provided to
cover the tubes. The use of the tube shields
is optional. Install the shields when the
amplifier is off and the tubes are installed.
Gently slide the tube shields over the tubes
and seat the shields into the tube stand
rings. When removing the tube shields,
turn off the amplifier and then wait until the
tubes have cooled, then simply grasp the
shields and pull straight up.

Operation

The Prautes uses a 12AU7 tube gain stage to drive a pair of 50L6 or 25L6 tubes in push-pull mode (The serial number on the back will indicate which tube type is used). This provides for more power than needed for almost all headphones—and can drive high efficiency speakers with about 2 watts. Five separate output impedances are provided to match listening equipment including 8 ohm speakers, standard headphones, high impedance headphones and In-Ear-Monitors.

Each of the four inputs are independent. Connect your line sources such as CD player, TV, or iPod to any of the four inputs. Since there are no digital switches (which can degrade the audio signal), it is recommended that unused devices connected to the Prautes be turned down or off.

Allow about five minutes of warm-up to let the tubes settle. Leave the ground lift switch on normal unless there is a ground loop hum in your setup. Turn the Prautes amplifier off when not in use to increase tube life.

The headphone outputs and speaker outputs are independent. Only the selected output is used. High efficiency 8 ohm speakers work best. See our website for recommendations.

The line output is appropriate for powered speakers, power amplifiers, or any other device with a line input that has an input impedance of 100K ohms or greater. When used to supply a line output to another amplifier, the Prautes amplifier acts like a pre-amplifier.

A TRULY UNIQUE PRODUCT

- The Prautes is a tube-based analog amplifier. It is powered by a small, custom made, internal regulated semiconductor power supply—thus allowing single box construction.
- The Prautes is hand assembled entirely in the U.S.A at Coffman Labs with point to point wiring—it should last decades. All contact points are mechanical as well as electrical.
- The Prautes is electrically rugged and meant to last.
- The Prautes chassis is a 100% machined (not stamped metal) and able to take abuse. All chassis parts are interlocked in specially designed machined slots so that only four bolts per side are required to keep the structure intact.

Product Info

ARE THERE ANY WARNINGS I SHOULD BE AWARE OF?

- DO NOT open the unit due to shock hazard. Opening will void the warranty.
- Make sure the bottom of the unit is clear. Natural convection cooling for the power supply comes from the bottom plate.
- Be careful when handling tubes—they can be VERY hot. Let them cool before changing or handling. If you leave the tube chimneys off, be careful, but it will not hurt operation.
- Don't set the PRAUTES near high field sources—tubes can pick up external hum if close. If you experience a problem—just move the amp. A few inches will usually do the trick.

WHAT ABOUT INPUTS AND OUTPUTS?

How many line inputs are there? Are they the same?

- There are 4 line inputs on the back panel.
- There are two RCA (L/R) inputs and two 3.5mm "mini" stereo inputs.

How many line outputs are there?

- There is one line output. This was added for convenience and flexibility. The Prautes is primarily a headphone amplifier, but it makes a very decent line stage as well. We recommend connecting to any input impedance greater than 100K ohms or greater. Use the line output to drive amplified speakers, computer input, or power amps.

What setting should I use for my headphones?

- Let your ears be the judge. It will not damage the amplifier or your headphones if you pick a wrong setting. Generally the 100 ohm or 300 ohm setting works best on headphones like Sennheiser while the 32 ohm setting will usually be best for AKG or Audeze headphones. The 8 ohm setting works best on headphones like Grado. IEM is for in-ear-monitor and earbuds.

How would I plug in speakers?

- Use the rear speaker (R/L) connections and select SPK on front panel output switch. High efficiency speakers are best as the output is in the 1-2W range.
- The 8 ohm setting is for speakers.

Will I damage my Prautes amplifier if I use full volume on the headphones?

- No. The PRAUTES is extremely rugged and can drive full volume signal for hours with no issues. The transformers are rated for 12W.

Can I play more than one headphone at a time?

- No. The selector switch chooses unbalanced or balanced output.



WHAT TUBES ARE USED? HOW ARE THEY DIFFERENT? CAN I ROLL THE TUBES?

- The PRAUTES uses a single 12AU7 tube on each input channel to drive a pair of 50L6 or 25L6 tubes in push pull operation for each channel through a matching output transformer. The input and output tubes are connected in a serial heater configuration that uses exactly the same voltage as the tube circuit. This allows the use of a single voltage source..
- The 6W6GT family (which includes the 12L6, 25L6, and 50L6 to name a few) has a wonderful "SE sounding" audio reproduction capability if you don't push the tube too hard. Thus, it is much better suited for headphones than it ever was for speakers..
- Both tube types are readily available and can be easily 'rolled'—and they are very inexpensive. Coffman labs likes vintage black plate 12AU7's and TungSol output tubes.

GENERAL QUESTIONS?

Will it harm the unit to leave it on?

- No. Tube heaters will wear out sooner, but that is all.

Is it normal for the amplifier to be warm to the touch?

- Yes. Make sure the bottom of the amplifier is not blocked from airflow.

How long does the Prautes take to warm-up?

- We recommend a minimum of five minutes. The output tubes run hot, and thus they need time to stabilize. Before then the tubes may be noisy.

What is the warranty?

- One year unconditional warranty (see full warranty language in the next section).
- Tubes are covered for 30 days.
- The warranty is transferrable to a second owner if the unit has been registered.

Is there a remote control option?

- No, the unit is meant to be close to the owner while wearing headphones.

Can units be configured for 240v as well as 120v?

- Yes. This is a factory option. If you need to change your unit, contact us for conversion. Do not operate a 120v unit on 240v power as this will damage the unit.

Can I remove the tube chimneys?

- Yes, but use caution when the tubes are hot.

TROUBLESHOOTING

What do I do if I hear spitting or crackling sounds in my headphone?

- This is almost always an indication of a faulty tube. Swap channels on the tube pairs to isolate the offending tube and then replace.

I hear a hear hum on the S1, S2, S3, or S4 position—what is wrong?

- You probably have a huge ground loop in your home electrical circuit. Change the ground lift switch position. The line inputs should be almost noiseless at full volume. Check on an unconnected input to make sure it is not coming from your source.

The tubes don't light up when I turn the power supply on—what do I do?

- Check the fuse in the AC receptacle. If the fuse blows again, or the unit still doesn't work, contact us for a service return.

I dropped the amplifier and can hear a rattle inside, but the amplifier still works just fine.

- Send it back to the factory for a check—there may be a loose or broken nut.

When I flick the tubes with my finger I can hear a click.

- This is normal for all tubes. Some tubes like the 6W6 family have a class sensitivity to vibration. Because the Prautes has double sound isolation, external vibrations and thumps are well isolated, but touching the tubes or amp directly can be heard.

What options are recommended?

- The Coffman Labs Footers provide an extra level of sound isolation. These were developed for phono amplifiers and turntables and are extremely neutral to the audio sound.

CYPHER LABS, LLC warrants our products to be free of defects in materials and workmanship for a period of one (1) year from the date of purchase. Your warranty period will be measured from your date of purchase. You must provide proof of purchase in the form of a purchase receipt, invoice or other valid purchase document. We request that you contact us if you feel your product is not working properly. We can often solve product issues by phone or e-mail, saving you the time and expense of returning the unit. If we require you to return the product, contact us via email and we will issue a Return Authorization to expedite the handling of your warranty claim. We will repair or replace any defective product or part when notified within the warranty period, and will return the product via domestic ground shipping at no charge.

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CYPHER LABS is pleased to offer suggestions on the use of its various products. However, CYPHER LABS neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by CYPHER LABS, either verbal or written. CYPHER LABS warrants only that the parts manufactured by it will be as specified and free of defects.

Except as otherwise provided herein, no other warranties, expressed or implied, are made with respect to these products; including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. CYPHER LABS, LLC assumes no liability for any damages, losses or expenses resulting directly or indirectly from product use.

The following issues do not result from a manufacturing defect and are not covered under this warranty:

- This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; misapplication; misuse or other operating conditions outside of CYPHER LABS's control
- Damage resulting from severe impact, crushing or mechanical harm
- Normal wear and tear
- Failed batteries
- Any action of the purchaser, including but not limited to mishandling, operation outside of design limits, improper repair, or unauthorized modification
- Components which wear are not warranted, including but not limited to contact points and fuses

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